



Manistee County Board of Commissioners

Manistee County Courthouse • 415 Third Street • Manistee, Michigan 49660

CLERK

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(231) 723-3331

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MANISTEE COUNTY GREEN TEAM/RECYCLING COMMITTEE

Friday, January 9, 2009
1:30 P.M.

Manistee County Courthouse & Government Center
Board of Commissioners Meeting Room

AGENDA

- 1) Parking Lot Lights (APPENDIX A)
- 2) Fairgrounds - Kevin Mulvihill
- 3) Potential Manistee Project
- 4) Schedule 2009 Meeting Dates/Times
- 5) Correspondence Regarding Recycling (APPENDIX B)
- 6) Other Items from Committee Members
- 7) Adjournment

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APPENDIX A

Hi Rachel,

There are a number of companies currently offering products, but the technology is still fairly new and relatively expensive, so it is a situation of "buyer beware". Attached is a

link to a recent LD&A article you may find interesting, as well as the performance specification developed as part of DOE's Commercial Building Energy Alliance (attached). I am pulling together a list of companies and products that I can share, hopefully next week. I will send you this once it is complete. Thanks for your interest and let me know if you have questions.

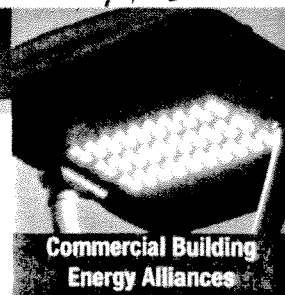
Thanks,

*Linda Sandahl, CEM
Program Manager
Pacific Northwest National Laboratory
620 SW Fifth Avenue, Suite 810
Portland, OR 97204
(503) 417-7554
(503) 417-2175 FAX*

Email dated 1-6-09

(Linda is the contact from the "LED Parking Lot Lighting Technology Procurement Project" - see A2 & A3.)

A-2



LED Parking Lot Lighting Technology Procurement Project

Current Members of the LED Parking Lot Lighting Working Group

- Best Buy
- Food Lion
- Home Depot
- Illuminating Engineering Society of North America
- JC Penney
- John Deere
- Kohl's
- McDonald's
- Target
- Walmart
- Whole Foods Market

The U.S. Department of Energy and its partners are working to expand market introduction of LED (light emitting diode) parking lot lighting. Under the Commercial Building Energy Alliances (CBEAs), a new working group is focused on making reliable, energy-efficient, and competitively priced outdoor LED luminaires more widely available in the marketplace.

CBEAs can help commercial building owners and managers cut energy costs by working with appliance, heating, cooling, and lighting manufacturers to meet energy-efficiency needs. One area that offers immediate returns is lighting, because high-efficiency lighting systems using Solid-State Lighting (SSL) technology are rapidly gaining market acceptance. In April 2008, a working group formed to accelerate the market availability of parking lot lighting using LED luminaires. Initiated by the Retailer Energy Alliance, this working group has begun a collaborative project to:

- Identify candidate luminaires and investigate their field and laboratory performance as well as life and reliability issues
- Develop product specifications and evaluation procedures based on group members' needs
- Issue Requests for Proposal (RFPs) to LED outdoor lighting manufacturers to be released by participating working group members (or by the Pacific Northwest National Laboratory on their behalf)
- Maximize initial cost efficiency of "selected" products through mass purchases.

development, product demonstrations, and outreach to energy efficiency program administrators. See www.netl.doe.gov/ssl for more information on DOE's SSL portfolio.

Through its involvement in the CBEAs and its SSL program activities, DOE will provide technical assistance in support of this technology procurement project, including:

- Product performance testing
- Product demonstration technical support
- Analysis of energy cost savings
- Analysis/quantification of maintenance cost savings
- Investigations into life measurements and other performance indicators
- Technology procurement technical assistance.

CBEA Member Opportunities and Benefits

There are several ways to be involved in LED parking lot lighting procurement: identifying candidate products, reviewing product laboratory testing, conducting field demonstrations, evaluating candidate products, assisting with the development of LED parking lot lighting specifications (to be released with the RFP), reviewing proposals, selecting winners, and participating in an LED parking lot lighting purchase.

Interested CBEA members can benefit from this project in a variety of ways, from simply being better informed of the potential of LED parking lot lighting (from DOE research and reports from other members), to being among the first to hear about new and promising technologies, to participating in demonstration projects and the RFP for LED parking lot lighting products.



The parking lot lighting demonstration comparing LED (left) and high-pressure sodium (right) shows the even light distribution and good color rendering of LED lighting.

Through the CBEAs, commercial building owners and managers can communicate their needs directly to technology manufacturers and suppliers.

DOE Support

This effort is sponsored by the U.S. Department of Energy (DOE) and implemented by the Pacific Northwest National Laboratory (PNNL) in coordination with the CBEAs. Because LEDs have the potential for such significant energy savings, DOE has been actively supporting research and commercialization of LED lighting through its SSL program, which includes research and development, product testing, technical information



DOE Solid-State Lighting Program

Through its Commercially Available LED Product Evaluation and Reporting (CALPER) program, DOE tests luminaires to determine actual performance. Summary reports are available at www.netl.doe.gov/ssl/comm_testing.htm. DOE also supports GATEWAY demonstrations to showcase high-performance LED products for general illumination in a variety of commercial and residential applications. Reports showing a range of economic results for demonstrations of exterior solid-state lighting products are available on the DOE SSL Web site at www.netl.doe.gov/ssl/techdemos.htm.

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Commercial Building

To learn more about this project, contact:

Linda Sandahl,
Program Manager
Pacific Northwest
National Laboratory
linda.sandahl@pnl.gov
buildings.energy.gov/alliances.html

Why LED Parking Lot Lighting?

LED technology is advancing into new categories of white-light applications, including parking lot lighting, where early indications suggest a high-quality light and long life. At present, however, products are available from a limited number of suppliers; performance

is not well understood, especially in the later years of this product's lifetime; and LED luminaires are expensive on a first cost basis. The following table compares LED parking lot lighting technology to metal halide (standard parking lot lighting).

Product Feature	Metal Halide	LED
Color Quality and Stability	Good white initial color but with unpredictable color shift over time	Good white initial color and modest color shift over time
Light Source (Lamp) Efficacy	Stable efficiency but limited capability for improvement	Efficiency continuing to improve and expected to progress far beyond current levels
Overall Lighting System Efficiency	Good with well-designed reflector but limited by "all-direction" nature of the lamp	Very efficient because of LED directionality, meaning nearly 100% of light leaves the luminaire
Technology Maturity	Longstanding stable technology	Improving technology; emerging technology is advancing quickly, though careful product identification is still advised
Product Availability	Numerous manufacturers of lamps and fixtures	Few manufacturers of quality technology but improving rapidly
Product Interchangeability	Components are cross-compatible	Current products come as complete luminaires with expectation of little need for component replacement
Life	Limited life (approx 12,000 hours)	Expected long life (50,000+ hours) but actual end-of-life performance not completely understood
Maintenance	Potentially high maintenance cost due to short life and labor needs for lamp replacement	Very low maintenance expected due to long life and durability
Environmental (Mercury)	Contains mercury, creating disposal issues	Contains NO mercury
Light Output Depreciation	Rapid lumen depreciation rate	Low lumen depreciation rate
Lighting Uniformity	Nature of lamp type makes uniformity on surfaces below 15:1 difficult	Directionality and flexibility make uniformity ratios below 10:1 easily achievable
Dimmability	Not dimmable	Dimmable
Start up	Requires warm up, and restrike if extinguished	Instant on / instant off
Durability	Lamp technology susceptible to breakage	Solid-state technology is much less fragile and less susceptible to vandalism, breakage, or damage from high winds, vibration
Light Pollution	Can be shaded for improved light pollution capability	Easy to reduce light pollution effects due to inherent directionality of source
Safety/Security	Standard, well-known capability	Improved uniformity, color rendering, and color quality for better visibility and enhanced safety for drivers and pedestrians; better visibility on security cameras
Design Flexibility	Standard; designers are familiar with and compensate for drawbacks	Luminaires come in arrays of many individual LEDs; easier to find just the amount of light needed, less overlighting for greater efficiency
Cost/Payback	Stable	Potentially long payback due to high initial cost, but maintenance savings are substantial; costs are rapidly decreasing
Design Presence	Common outdoor application	Relative unfamiliarity in the lighting community

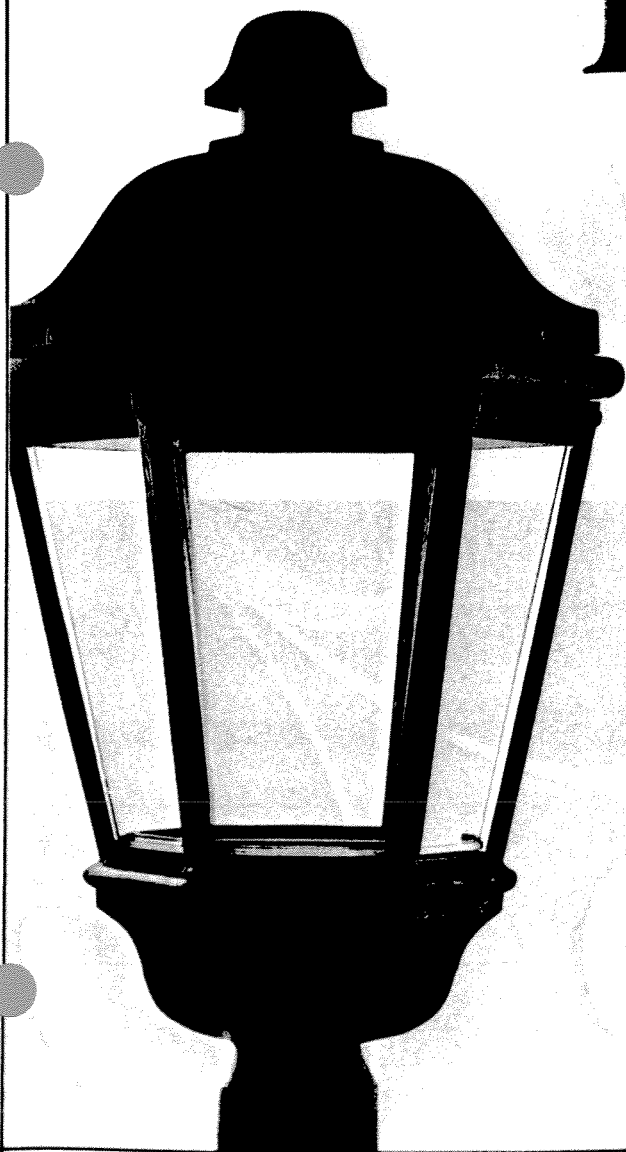
Communities dial down
energy use by changing their
light bulbs and fixtures.

LIGHTING FOR LESS

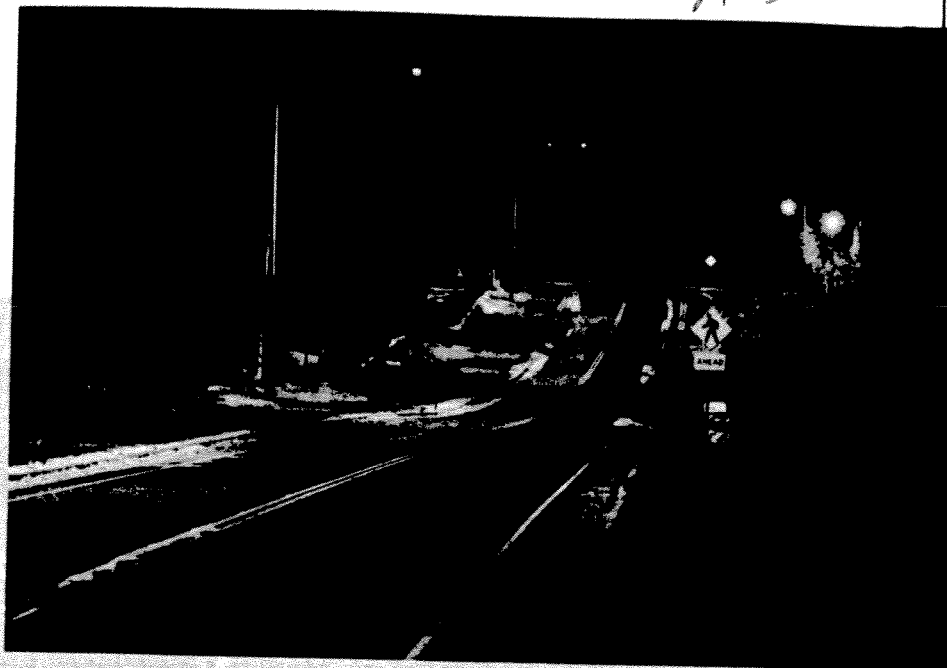
By Bill Wolpin

Estes Park, Colo.

When Estes Park, Colo., officials decided to replace the city's cantilever style lighting, they let residents vote on their favorite fixture. Public Works officials wanted the luminaires to be dark-sky friendly to comply with the town lighting ordinance, feature high-performance optical systems that use advanced metal halide technology, and be inexpensive to maintain. Five options were selected, and the units were installed in the public square for six months. Residents chose Towne Commons luminaire from La Mirada, Calif.-based Architectural Area Lighting. The same light levels were achieved with a 100-watt pulse start metal halide bulb versus the 200-watt and 400-watt high pressure sodium bulbs used in the previous units. In addition to saving energy, the metal halides broadcast the white light appearance Public Works required.

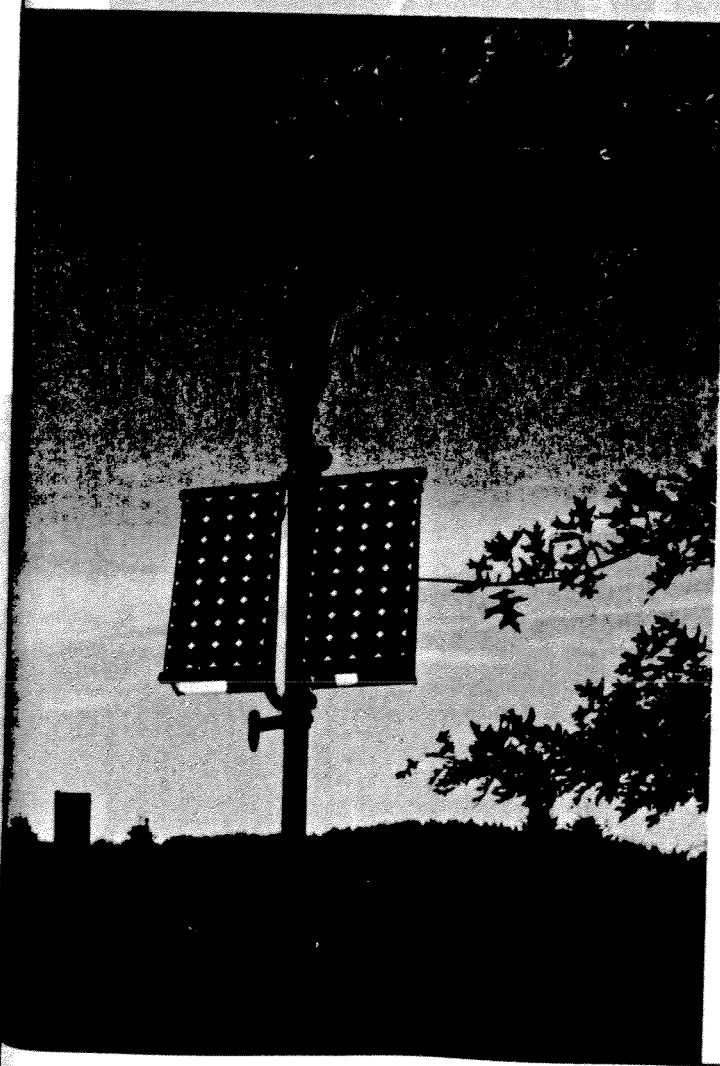


A-5



Anchorage, Alaska

Anchorage is spending \$2.2 million to retrofit all 16,000 municipal roadway lights in the city with **high-efficiency LED fixtures**. The first of the units were installed in November, and the first phase of 4,200 streetlights will be complete by the summer. The LEDway fixtures from Sturtevant, Wis.-based BetaLED are expected to use 50 percent less energy than the city's current streetlights, and could save \$360,000 annually at current energy prices. Mayor Mark Begich says the city studied the new lighting technologies to validate the energy and maintenance cost savings, and the city held a lighting conference and public survey in March that showed residents overwhelmingly approve of the new white LED lighting.



Liberty Township, N.Y.

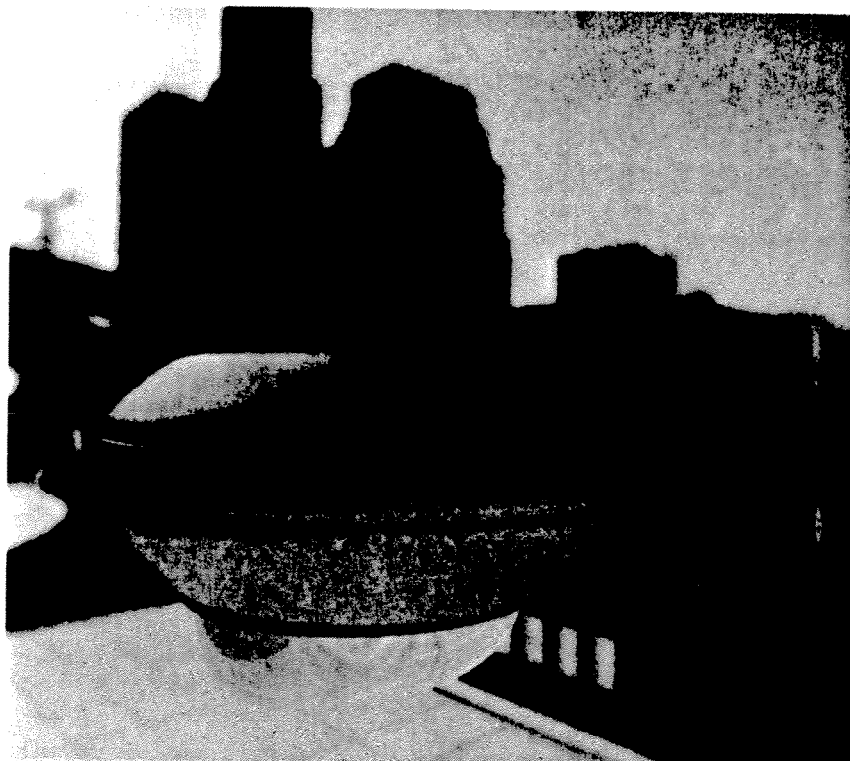
Contained in one of four hamlets in Liberty Township, N.Y., Swan Lake Park is one of the first of its kind in the country to use **solar-powered LED lighting technology** for commercial outdoor applications. The new lighting was part of a beautification project promoted by the Liberty Community Development Corp., which is funded by the local government, as well as the locally based Gerry Foundation. The effort also was part of a solar street light demonstration project co-funded by the New York State Energy Research and Development Authority. Six 14-foot-tall, solar-powered LED streetlights installed along a pathway at Swan Lake Park were supplied by Framingham, Mass.-based SolarOne Solutions. The fixtures use round strings of small LEDs powered by photovoltaic cells. A computer regulates the system to ensure that the lights are always on.

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Glendale, Ariz.

Glendale, Ariz., recently established a goal to significantly reduce its streetlight outages. The city was receiving about 20 calls a day from residents reporting outages, and officials estimated that approximately 7 percent of the 18,500 streetlights were inoperable. With the help of a **wireless monitoring system** from Granville, Ohio-based Roam, the city diagnosed the streetlight malfunctions. Glendale determined the outage rate, originally estimated at 7 percent, was actually 20 percent. In the first five months, the city reduced its streetlight outages from 3,700 to 370 lights and reduced the call volume from its residents by 85 percent. Today, Glendale is maintaining a 1 percent outage rate, which is driving down operational costs while insuring lighting efficiency.



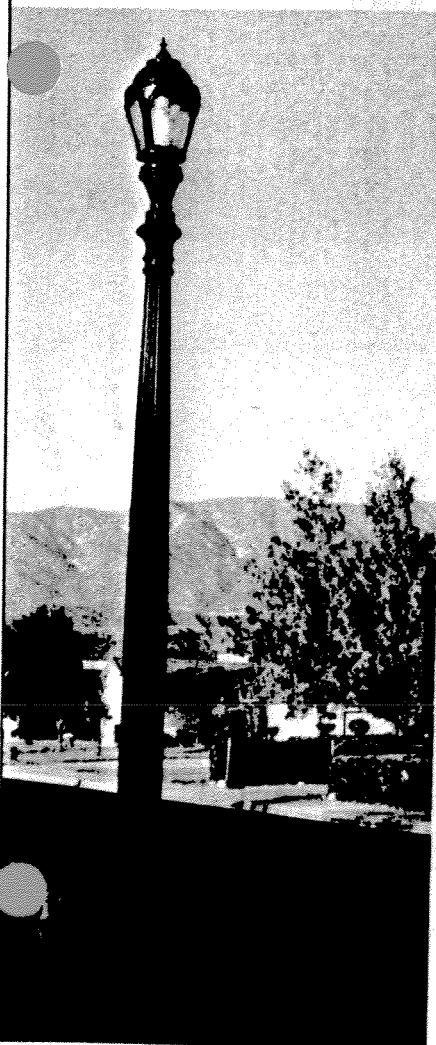
Port St. Lucie, Fla.

Because the Port St. Lucie Civic Center also serves as an emergency shelter, the building needed its new egress lighting to be powered with a generator. County officials chose fixtures from Roselle, Ill.-based Sternberg Lighting, which illuminates with a 175-watt metal halide bulb. However, the specifications had to be changed to twin 60-watt **fluorescent bulbs** to accommodate the emergency power generator requirement. In addition to lasting 50 percent longer, the fluorescent lighting uses about 33 percent less electricity than a metal halide lamp. All the center's new lighting used Sternberg's Gettysburg hanging and wall-mounted fixtures and Historic fixtures on Birmingham poles.



Beaumont, Calif.

As part of the city's sustainability plan, Beaumont, Calif., officials determined they could save energy by replacing outdoor lighting. Two types of technologies were defined because each performs better at different mounting heights. **LED lights** designed by Burlington, Ontario-based King Luminaire, mounted at 16 feet, were used to light the downtown area. A total of 160 of the 78-watt LED lights are being installed, replacing 100-watt, high-pressure sodium fixtures and reducing the annual cost of operation by about 30 percent. The city also is using 150-watt **digital induction lights** mounted between 30 feet and 36 feet to illuminate major roadways. Eighty of the lights will replace 200-watt, high-pressure sodium bulbs, initially saving the city 40 percent annually on energy bills. Beaumont is considering retrofitting all of its 2,000 streetlights in the next few years.



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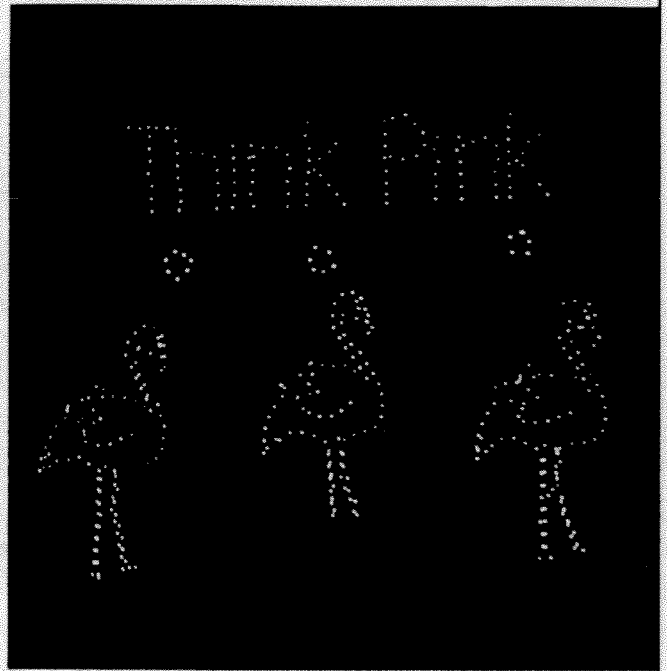
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A-7

Oakland, Calif.

A holiday tradition returns to California's Oakland Zoo this year, but with a twist that is helping reduce energy costs. Zoo Lights, featuring larger-than-life light displays that resemble the zoo's full-time animal residents, uses hundreds of thousands of lights. To conserve energy, the Oakland Zoo and Sacramento, Calif.-based Pacific Gas & Electric (PG&E) conducted an energy audit to find where improvements could be made. PG&E worked with Aurora, Ohio-based TCP to replace all of the incandescent holiday lights with LEDs, lowering the watts of electricity required from 250,000 to 52,000 per year. In addition to the Zoo Lights exhibit, PG&E and TCP are retrofitting other zoo facilities and a nearby amusement park using **compact fluorescent, cold cathode and LED lights**. As part of the city's "Greening of Oakland" initiative, the projects are estimated to reduce more than 80,000 kilowatt hours of electricity and more than 125,000 pounds of carbon dioxide emissions.



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AMERICAN CITY & COUNTY



CITY HALL
70 Maple Street

CITY MANAGER

January 5, 2009

CITY ASSESSOR

BUILDING INSPECTOR

Mr. Daniel Harris
1720 Vine Street
Manistee, Michigan 49660

PLANNING, ZONING &
COMMUNITY DEV.

CITY CLERK

Dear Mr. Harris:

CITY TREASURER

This letter is in response to your letter received by the City of Manistee on December 9, 2008. First, let me apologize for taking so long to respond to your letter.

WATER BILLING

Currently the Alliance for Economic Success is researching best practices of county recycling programs in order to determine which program will make the most sense for the entire county. I am going to forward your letter to the AES Office so your thoughts and comments can be taken into consideration as they continue with their research.

ADMINISTRATION

CLERK/TREASURER

POLICE DEPARTMENT
70 Maple Street

Regarding recycling opportunities in the City of Manistee there are several current programs available to residents. The first being curbside collection of recyclables twice a month. There is a \$4.00 per month fee associated with this service. Second would be the recycling drop off containers located at the DPW building at 280 Washington Street. I have enclosed a brochure from Allied Waste which identifies which materials can be recycled in Manistee County. Thank you for your letter and interest in recycling in Manistee.

FIRE DEPARTMENT
301 First Street

Sincerely,

PUBLIC WORKS
280 Washington St.

CITY OF MANISTEE

SEWER DEPARTMENT

WATER MAINTENANCE

Mitchell D. Deisch, City Manager
mdeisch@ci.manistee.mi.us

WASTEWATER PLANT
70 Ninth St.

MDD:cl

Enclosure

cc. Tim Ervin, AES Office
Renee Ihlenfeldt, AES Office
Tom Kaminski, Manistee County Administrator



B-2

1720 vine St.

Manistee MI 49660

November 24, 2008

Mitch Deish

PO Box 358

Manistee, MI 49660

Dear Mitch Deisch

I am writing you concerning the lack of recycling in Manistee. I think that every city should have some sort of program to better the future and the condition of that city. I believe if it is left in the hands of the people that live in this area, they would run it with a little more compassion. Once they get established and find that in can turn a profit, I don't see why it couldn't turn the once semi volunteers into workers making a decent wage. I don't need to tell you but we could really use more jobs, putting a dent into both eco and economic factors of Manistee. I would be very interested in starting, or at least being part of one of these projects. Since I moved to Manistee about two years ago from Ludington, I have been wondering when a recycling project was going to start. Ludington was very active in their recycling program, which contributed to a very garbage free town.

First we could take a poll to see how many people would take part in this recycling program, this would let us know if the people of Manistee would be cooperative with the new program. This would get people involved and more proactive in our stride to go green. I think supplying local based groups the assets they need to begin and sustain recycling projects would be minimal in costs and possible bring in some revenue. Thank you for taking the time to read my letter and I hope to be hearing from you soon.

Sincerely,

Daniel A. Harris